

Amendments to the Claims

This listing of claims, if entered, will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. (Currently Amended) A method comprising:
a transmitting device transmitting data at a first non-zero rate to a memory for storage therein during a first period of time;
generating a first data quantity value representing a quantity of data stored in the memory at a first point in time,
comparing the first data quantity value to a first predetermined value;
in response to comparing the first data quantity value to the first predetermined value, the transmitting device transmitting data at a second non-zero rate to the memory for storage therein during a second period of time;
modifying the first predetermined value;
wherein the second period of time is subsequent to the first period of time, and;
wherein the second non-zero rate is greater than the first non-zero rate.
2. (Previously Presented) The method of claim 1 wherein the memory device comprises a FIFO buffer.
3. (Original) The method of claim 1 wherein the transmitting device is contained in a switching fabric, wherein the memory is contained in a line card coupled to the switching fabric via a data link, and wherein the transmitter transmits data via the data link to the memory for storage therein.
4. (Previously Presented) The method of claim 1 further comprising:
generating a rate control signal; and
transmitting the rate control signal to the transmitting device to instruct the transmitting device to stop transmitting data at the first non-zero rate and start transmitting data at the second non-zero rate;

wherein the transmitting device stops transmitting data to the memory device at the first data rate and starts transmitting data to the memory device at the second data rate in response to the transmitting device receiving the rate control signal.

5. (Cancelled)
6. **(Currently Amended)** The method of claim **54** further comprising:
comparing the first data quantity value to a plurality of predetermined values,
wherein the first predetermined value is one of the plurality of first
predetermined values;
wherein the rate control signal is generated in response to comparing the first data
quantity value to the plurality of predetermined values.
7. **(Currently Amended)** The method of claim **54** further comprising:
generating a second data quantity value representing a quantity of data stored in
the memory device at a second point in time, wherein the second point in
time is prior to the first point in time;
comparing the first data quantity value to the second data quantity value;
wherein the rate control signal is generated if the first data quantity value is not
equal to the second data quantity value.
8. **(Currently Amended)** The method of claim **51** wherein generating the first data
quantity value comprises:
generating total data input count at the first point in time, wherein the total data
input count represents a quantity of data input to the memory device
during a period of time ending in the first point in time;
generating total data output count at the first point in time, wherein the total data
output count represents a quantity of data output from the memory device
during the period of time ending in the first point in time;
subtracting the total data output count from total data input count.
9. (Cancelled)

10. **(Currently Amended)** An apparatus comprising:
a memory device configured to receive data from a transmitting device for storage therein;
a first circuit configured to generate and transmit a rate control signal instructing the transmitting device to stop transmitting data to the memory device at a first non-zero rate and to begin transmitting data to the memory device at a second non-zero rate wherein the second non-zero rate is greater than the first non-zero rate;
a second circuit for generating a first data quantity value representing a quantity of data stored in the memory device at a first point in time;
and
a first comparing circuit for comparing the first data quantity value to a first predetermined value, wherein the first comparing circuit generates the rate control signal in response to comparing the first data quantity value to the first predetermined value;
a circuit for modifying the first predetermined.
11. (Original) The apparatus of claim 10 wherein the memory device comprises a FIFO buffer.
12. (Original) The apparatus of claim 10 further comprising the transmitting device, wherein the transmitting device is contained in a switching fabric, wherein the memory is contained in a line card coupled to the switching fabric via a data link, and wherein the transmitter transmits data via the data link to the memory for storage therein.
13. (Cancelled)
14. **(Currently Amended)** The apparatus of claim ~~10~~**13** further comprising:
a plurality of comparing circuits, each one of which is configured to compare the first data quantity value to a respective one of a plurality of predetermined values, wherein the first comparing circuit is one of the plurality of comparing circuits, and wherein the first predetermined value is one of the plurality of first predetermined values;

wherein the circuit generates the rate control signal in response to comparing the first data quantity value to the plurality of predetermined values.

15. **(Currently Amended)** The apparatus of claim ~~10~~**13** further comprising:
a ~~second~~ **third** circuit for generating a second data quantity value representing a quantity of data stored in the memory device at a second point in time, wherein the second point in time is prior to the first point in time;
a second comparing circuit for comparing the first data quantity value to the second data quantity value;
wherein the circuit generates the rate control signal if the first data quantity value is not equal to the second data quantity value.
16. **(Original)** The apparatus of claim 15 wherein the first and second circuits are the same circuits.
17. – 23 **(Cancelled)**
24. **(Currently Amended)** An apparatus comprising:
a memory device configured to receive data from a transmitting device for storage therein;
a first means for generating and transmitting a rate control signal instructing the transmitting device to stop transmitting data to the memory device at a first non-zero rate and to begin transmitting data to the memory device at a second non-zero rate wherein the second non-zero rate is greater than the first non-zero rate,
a second means for generating a first data quantity value representing a quantity of data stored in the memory device at a first point in time;
a third means for comparing the first data quantity value to a first predetermined value;
wherein the first means generates the rate control signal in response to comparing the first data quantity value to the first predetermined value, and
a means for modifying the first predetermined value.

25. (Original) The apparatus of claim 24 wherein the memory device comprises a FIFO buffer.
26. (Original) The apparatus of claim 24 further comprising the transmitting device, wherein the transmitting device is contained in a switching fabric, wherein the memory is contained in a line card coupled to the switching fabric via a data link, and wherein the transmitter transmits data via the data link to the memory for storage therein.
27. (Original) The apparatus of claim 24 further comprising:
a second means for generating a first data quantity value representing a quantity of data stored in the memory device at a first point in time;
a third means for comparing the first data quantity value to a first predetermined value;
wherein the first means generates the rate control signal in response to comparing the first data quantity value to the first predetermined value.
28. (Cancelled)
29. (Cancelled)
30. (Currently Amended) A method comprising:
a transmitting device transmitting data at a first non-zero rate to a memory for storage therein during a first period of time;
generating a rate control signal by
generating a first data quantity value representing a quantity of data
stored in the memory at a first point in time,
comparing the first data quantity value to a first predetermined value,
and
wherein the rate control signal is generated in response to comparing
the first data quantity value to the first predetermined value;
in response to receiving the rate control signal, the transmitting device
transmitting data at a second non-zero rate to the memory for storage
therein during a second period of time;
modifying the first predetermined value;

wherein the second period of time is subsequent to the first period of time, and;
wherein the second non-zero rate is less than the first non-zero rate.

31. (Currently Amended) An apparatus comprising:
a memory device configured to receive data from a transmitting device for storage therein;
a first circuit configured to generate and transmit a rate control signal instructing the transmitting device to stop transmitting data to the memory device at a first non-zero rate and to begin transmitting data to the memory device at a second non-zero rate wherein the second non-zero rate is less than the first non-zero rate;
a second circuit for generating a first data quantity value representing a quantity of data stored in the memory device at a first point in time;
and
a first comparing circuit for comparing the first data quantity value to a first predetermined value, wherein the first comparing circuit generates the rate control signal in response to comparing the first data quantity value to the first predetermined value, wherein the first predetermined value is modified
32. (Currently Amended) The method of claim 30 further comprising:
~~generating a rate control signal; and~~
transmitting the rate control signal to the transmitting device to instruct the transmitting device to stop transmitting data at the first non-zero rate and start transmitting data at the second non-zero rate; and
wherein the transmitting device stops transmitting data to the memory device at the first data rate and starts transmitting data to the memory device at the second data rate in response to the transmitting device receiving the rate control signal.
33. (Cancelled)
34. (Previously Presented) The method of claim 33 further comprising:

comparing the first data quantity value to a plurality of predetermined values,
wherein the first predetermined value is one of the plurality of first
predetermined values;
wherein the rate control signal is generated in response to comparing the first data
quantity value to the plurality of predetermined values.

35. (Currently Amended) The method of claim 1 further comprising:
~~generating a rate control signal; and~~
transmitting the rate control signal to the transmitting device to instruct the transmitting
device to stop transmitting data at the first non-zero rate and start transmitting
data at the second non-zero rate; and
wherein the transmitting device stops transmitting data to the memory device at the first
data rate and starts transmitting data to the memory device at the second data rate
in response to the transmitting device receiving the rate control signal.
36. (Cancelled)
37. (Currently Amended) The method of claim 36 further comprising:
comparing the first data quantity value to a plurality of predetermined values, wherein the
first predetermined value is one of the plurality of first predetermined values;
wherein the rate control signal is generated in response to comparing the first data
quantity value to the plurality of predetermined values.
38. (Previously Presented) The method of claim 1 further comprising
the transmitting device transmitting data at a third non-zero rate to the memory for
storage therein during a third period of time;
wherein the third period of time is subsequent to the second period of time, and wherein
the third non-zero rate is greater than the second non-zero rate.

39. (New) The method of claim 1, wherein the first predetermined value is modified to avoid frequent receipt of the rate control signal due to oscillation of the quantity of the data stored within the memory device around the first predetermined value.
40. (New) The apparatus of claim 10, wherein the first predetermined value is modified to avoid frequent receipt of the rate control signal due to oscillation of the quantity of the data stored within the memory device around the first predetermined value.
41. (New) The apparatus of claim 24, wherein the first predetermined value is modified to avoid frequent receipt of the rate control signal due to oscillation of the quantity of the data stored within the memory device around the first predetermined value.
42. (New) The apparatus of claim 30, wherein the first predetermined value is modified to avoid frequent receipt of the rate control signal due to oscillation of the quantity of the data stored within the memory device around the first predetermined value.
43. (New) The apparatus of claim 31, wherein the first predetermined value is modified to avoid frequent receipt of the rate control signal due to oscillation of the quantity of the data stored within the memory device around the first predetermined value.